WE CLAIM

1. A cannula for use with a therapy delivery device for providing treatment therapy to a volume of neural tissue, the cannula comprising in combination:

(a) a proximal end capable of receiving at least two leads;

(b) a body; and

(c) a distal end having at least two apertures, each aperture capable of directing at least one of the leads outwardly along a distinct predetermined trajectory.

2. A lead system for providing treatment therapy to a volume of neural tissue comprising in combination:

(a) cannula having a lumen distal end, the lumen distal end having at least two openings, each opening capable of directing a lead outwardly along a distinct predetermined trajectory;

(b) at least two leads insertable within the cannula; and

(c) at least one therapy delivery element at a distal end of each lead.

3. The lead system of claim 2, wherein the therapy delivery element is an electrode to provide stimulation therapy.

4. The lead system of claim 2, further comprising:

(d) a therapy delivery device selectively providing treatment therapy via the therapy delivery element.

5. The lead system of claim 4, wherein the therapy delivery device is a signal generator and the therapy delivery element is an electrode.

6. The lead system of claim 5, further comprising:

(e) means for selectively adjusting an electric field created by delivery of stimulation energy to each electrode by the signal generator.

7.   The lead system of claim 2, wherein the therapy delivery element is an catheter to delivery at least one therapeutic substance.

8.   The lead system of claim 4, wherein the therapy delivery device is a drug delivery device and the therapy delivery element is a catheter.

9.   The lead system of claim 8, further comprising:

(e)   means for selectively adjusting a relative drug delivery by the pump to each catheter.

10.   The lead system of claim 2, further comprising:

(d)   a sensor for generating a signal related to an extent of a condition to be treated; and

(e)   a processor responsive to the sensor for adjusting at least one parameter of a treatment therapy provided to the therapy delivery element.

11.   The lead system of claim 2, further comprising:

(d)   a sensor for generating a signal related to an extent of a condition to be treated; and

(e)   a processor responsive to the sensor for selectively altering a relative treatment therapy delivery delivered through the therapy delivery elements.

12.   A method for implanting leads to provide treatment therapy to a volume of neural tissue comprising the steps of:

(a)   positioning a cannula within a body of a patient, the cannula having at least two openings near a distal end, each opening capable of directing a lead outwardly along a distinct predetermined trajectory;

(b)   inserting at least two leads into the cannula; and

(c)   directing a distal end of each lead outwardly through one of the openings and along the distinct predetermined trajectory determined by the opening.

13.   The method of claim 12, wherein the step of positioning comprises the step of positioning the cannula within a brain of the patient.

14.   The method of claim 12, wherein the step of positioning comprises the step of positioning the cannula within a spinal cord of the patient.

15.   The method of claim 12, wherein the step of positioning comprises the step of positioning the cannula within a peripheral nerve of the patient.

16.   A method for implanting leads to provide treatment therapy to a volume of neural tissue comprising the steps of:
(a)   implanting a cannula within a body of a patient;
(b)   inserting first and second leads into the cannula;
(c)   directing a first distal end of the first lead outwardly through the cannula and along a first distinct predetermined trajectory; and
(d)   directing a second distal end of the second lead outwardly through the cannula and along a second distinct predetermined trajectory.

17.   The method of claim 16, wherein the step of implanting comprises the step of positioning the cannula within a brain of the patient.

18.   The method of claim 16, wherein the step of implanting comprises the step of positioning the cannula within a spinal cord of the patient.

19.   The method of claim 16, wherein the step of implanting comprises the step of positioning the cannula within a peripheral nerve of the patient.

20.   A method of providing treatment therapy to a volume of neural tissue of a patient comprising the steps of:

(a)   implanting a cannula within a predetermined site of the patient;

(b)   inserting at least two leads into the cannula and directing each lead outwardly through an opening along a distal end of the cannula, each lead extending from the cannula along a distinct predetermined trajectory; and

(c)   positioning a therapy delivery element on the distal end of each lead to provide treatment therapy to the volume of neural tissue.

21.   The method of claim 20, wherein the step of implanting comprises the step of implanting the cannula within a brain of the patient.

22.   The method of claim 20, wherein the step of implanting comprises the step of implanting the cannula within a spinal cord of the patient.

23.   The method of claim 20, wherein the step of implanting comprises the step of implanting the cannula within a peripheral nerve of the patient.

24.   The method of claim 20, wherein the volume of neural tissue is selected from the group consisting of a subthalamic neucleus (STN), a peduncular pontine nucleus (PPN), a caudate, a putamen, an internal palladium, an external palladium, a cingulum, an anterior limb of an internal capsule, an anterior nucleus (AN), a centremedian (CM), a dorsal medial nucleus, a nucleus of a thalamus, a hippocampus, a structure in a temporal lobe, a hypothalamus, a structure of a diencephalons, a pons, a medulla, a corext, a cerebellum, a lateral geniculate body, and a medial geniculate body.

25.   The method of claim 20, wherein the therapy delivery element is an electrode.

26.   The method of claim 25, further comprising the steps of:

(d) establishing an anode/cathode relationship between at least two electrodes; and

(e) presenting electrical pulses to the established anode/cathode relationships of the electrodes, whereby neural tissue are activated.

27. The method of claim 20, wherein the therapy delivery element is a catheter.

28. A system for providing treatment therapy to a volume of neural tissue comprising in combination:

(a) cannula having a lumen distal end, the lumen distal end having at least two openings, each opening capable of directing an object outwardly along a distinct predetermined trajectory;

(b) at least one lead insertable within the cannula and capable of being directed outwardly through one of the openings of the cannula and having at least one electrode at a distal end of the lead;

(c) at least one catheter insertable within the cannula and capable of being directed outwardly through another one of the openings of the cannula;

(d) a signal generator coupled to the lead for providing electrical stimulation to the neural tissue; and

(e) a drug delivery device coupled to the catheter for delivering at least one drug to the neural tissue.

29. The system of claim 28 further comprising:

(f) means for selectively adjusting an electric field created by the signal generator.

30. The system of claim 28 further comprising:

(f) means for selectively adjusting a rate of drug delivery by the drug delivery device to the catheter.

31.   The system of claim 28 further comprising:

(f)   a sensor for generating a signal related to an extent of a condition to be treated; and

(g)   a processor responsive to the sensor for adjusting at least one parameter of a treatment therapy provided by the signal generator.

32.   The system of claim 28 further comprising:

(f)   a sensor for generating a signal related to an extent of a condition to be treated; and

(a)   a processor responsive to the sensor for adjusting at least one parameter of a treatment therapy provided by the drug delivery device.

33.   The system of claim 28 further comprising:

(a)   a sensor for generating a signal related to an extent of a condition to be treated; and

(b)   a processor responsive to the sensor for selectively altering a relative treatment therapy delivery delivered by the signal generator.

34.   The system of claim 28 further comprising:

(a)   a sensor for generating a signal related to an extent of a condition to be treated; and

(b)   a processor responsive to the sensor for selectively altering a relative treatment therapy delivery delivered by the drug delivery device.

35.   A method for providing treatment therapy to a volume of neural tissue comprising the steps of:

(a)   implanting a cannula within a body of a patient;

(b)   inserting at least one lead into the cannula;

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(c)   directing a lead distal end of first lead outwardly through the cannula and along a first distinct predetermined trajectory;

(d)   inserting at least one catheter into the cannula; and

(e)   directing a catheter distal end of the catheter outwardly through the cannula and along a second distinct predetermined trajectory.

36.   The method of claim 35, further comprising the steps of:

(f)   coupling the lead to a signal generator for providing electrical stimulation to the neural tissue; and

(g)   coupling the catheter to a drug delivery device for delivering at least one drug to the neural tissue.

37.   The method of claim 36, further comprising the step of:

(h)   selectively adjusting an electric field created by the signal generator.

38.   The method of claim 36, further comprising the step of:

(h)   selectively adjusting a rate of drug delivery by the drug delivery device to the catheter.

39.   The method of claim 36, further comprising the step of:

(h)   sensing an extent of a condition to be treated; and

(i)   adjusting in response to the step of sensing at least one parameter of a treatment therapy provided by the signal generator.

40.   The method of claim 36, further comprising the step of:

(h)   Sensing an extent of a condition to be treated; and

(i)   adjusting in response to the step of sensing at least one parameter of a treatment therapy provided by the drug delivery device.

41.   The method of claim 35, wherein the step of implanting comprises the step of implanting the cannula within a brain of the patient.

42. The method of claim 35, wherein the step of implanting comprises the step of implanting the cannula within a spinal cord of the patient.

43. The method of claim 35, wherein the step of implanting comprises the step of implanting the cannula within a peripheral nerve of the patient.

44. The method of claim 35, wherein the volume of neural tissue is selected from the group consisting of a subthalamic neucleus (STN), a peduncular pontine nucleus (PPN), a caudate, a putamen, an internal palladium, an external palladium, a cingulum, an anterior limb of an internal capsule, an anterior nucleus (AN), a centremedian (CM), a dorsal medial nucleus, a nucleus of a thalamus, a hippocampus, a structure in a temporal lobe, a hypothalamus, a structure of a diencephalons, a pons, a medulla, a corext, a cerebellum, a lateral geniculate body, and a medial geniculate body.

45. The method of claim 36, further comprising the steps of:

(h) establishing an anode/cathode relationship between at least two electrodes; and

(i) presenting electrical pulses to the established anode/cathode relationships of the electrodes, whereby neural tissue are activated.